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EXAMINER

REFAI, RAMSEY

ART UNIT

PAPER NUMBER

3627

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/051,634	<b>Applicant(s)</b> BASHYAM ET AL.	
	<b>Examiner</b> Ramsey Refai	<b>Art Unit</b> 3627	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8, 11-27, 30-39, 42-59, 61-70, 73-101 and 104-124 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11-27, 30-39, 42-59, 61-70, 73-101, and 104-124 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

Responsive to the Request for Continued Examination (RCE) filed Amendment filed 11/22/2010. Claims 1, 30, 32, 61, 63, and 94 were amended. Claims 28, 29, 59, and 60 were canceled. Claims 1-8, 11-27, 30-39, 42-59, 61-70, 73-101, and 104-124 are pending.

### ***Response to Arguments***

1. Applicant's arguments have been fully considered but they are not persuasive.

In the remarks, the Applicant argues with substance:

Argument: the proposed combination fails to disclose *determining that a second network element requires additional data, where the determining is performed by a first network element without the additional data being requested by the second network element, pushing data from a receive buffer to a transmit buffer in response to the determining, and transferring the additional data to the second network element without the additional data being requested by the second network element*, as recited by amended claim 1. In response, the Examiner respectfully disagrees. The transfer of data in Smith does not require an *additional* request; hence the data transferred is being *pushed* based on buffer capacity and the absence of an "end of file" indicator. The argument that Smith requires an initial request and the claimed invention doesn't is incorrect (see element 305 in fig 3 of the Applicant's Specification). See at least col. 13, line 29-column 14, line 55, figs 14-17.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-8, 15-27, 30-39, 46-58, 61-70, 77-101, and 108-124 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al (US 6,308,238) in view of Wicki et al (US 6,003,064).

4. As per claim 1, Smith et al teach a method of managing network communication comprising:

establishing a first transmission control protocol ("TCP") connection with a first network element, wherein said first TCP connection is between said first network element and a second network element, said first TCP connection is intended to be established with a third network element and said first network element comprises a transmit buffer and a receive buffer; initiating a second TCP connection between said first network element and said third network element; establishing communications between said second and said third network elements via said first network element (**see at least column 2, lines 38-60**);

determining that said second network element requires additional data via said first TCP connection, wherein said determining is performed by said first network element without said additional data being requested by said second network element (**see at least col. 13, line 29-column 14, line 55, figs 14-17**);

in response to said determining pushing said additional data from said receive buffer for said second TCP connection to said transmit buffer and transferring said additional data from said transmit buffer to said second network element without said additional data being requested by said second network element (**see at least col. 13, line 29-column 14,line 55, figs 14-17**).

Smith et al fail to explicitly teach *detecting that acknowledged data is being removed from said transmit buffer for said first TCP connection, wherein said detecting comprises detecting an acknowledgement sent via said first TCP connection by said second network element and removal of said acknowledged data frees space in said transmit buffer*. However, in the same field of endeavor, Wicki et al teach a method and system that includes buffers for temporarily storing data until the data can be sent to another element. The availability of buffers is detected using signals that indicate acknowledgement of received data and removal of data from the buffer to the other element (buffer has space and is no longer full) (**see at least abstract**). It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to combine Smith et al with Wicki et al because doing so would create an efficient management of connections by using signals that indicate buffer availability in order to prevent wasting bandwidth by transferring data to a full buffer.

5. As per claim 2, Smith et al teach wherein said second network element initiates said first TCP connection for said third network element (**see at least column 2, lines 38-60**).

6. As per claim 3, Smith et al teach wherein said communications between said second and said third network elements are established using said first and said second TCP connections (**see at least column 2, lines 38-60**).

7. As per claim 4, Smith et al teach wherein said communications between said second and said third network elements form an end-to-end TCP connection **(see at least column 2, lines 38-60)**.

8. As per claim 5, Smith et al teach wherein said first network element is a proxy server **(proxy)**.

9. As per claim 6, Smith et al teach wherein a control unit of said proxy server monitors said transmit buffer **(see at least column 6, lines 26-42, fig 10)**.

10. As per claim 7, Smith et al teach wherein said control unit transfers said data between said second and said third network elements **(see at least column 2, lines 38-60)**.

11. As per claim 8, Smith et al teach wherein said proxy server supports transparent communications between said second and said third network elements **(see at least column 2, lines 38-60)**.

12. As per claim 15, Smith et al teach wherein said second network element is one of a plurality of clients **(see at least column 2, lines 38-60)**.

13. As per claim 16, Smith et al teach wherein one of a plurality of applications on said client initiates said first TCP connection for said client **(see at least column 2, lines 38-60)**.

14. As per claim 17, Smith et al teach wherein said third network element is one of a plurality of servers **(see at least column 2, lines 38-60)**.

15. As per claim 18, Smith et al teach wherein a data switching unit of said proxy server determines which one of said plurality of servers to use for said second TCP connection **(see at least column 2, lines 38-60)**.

16. As per claim 19, Smith et al teach monitoring said first TCP connection **(see col. 2, ll. 21)**.

17. As per claim 20, Smith et al teach receiving a request for data from said second network element; and determining whether said request requires said second TCP connection with one of said plurality of servers **(see at least column 2, lines 38-60)**.

18. As per claim 21, Smith et al teach wherein data switching unit receives said request for data via said control unit **(see at least figs 5/15, col. 15, ll 33-64)**.

19. As per claim 22, Smith et al teach wherein said determining of said second TCP connection is done by said data switching unit **(see at least figs 5/15, col. 15, ll 33-64)**.

20. As per claim 23, Smith et al teach if said request does not require said second TCP connection with one of said plurality of servers, servicing said request for data, and closing said connection with said second network element **(see at least column 2, lines 38-60)**.

21. As per claim 24, Smith et al teach wherein said request for data is served by passing data from said data switching unit to said control unit for transmission to an application on said second network element **(see at least column 2, lines 38-60, column 7, lines 35-53, fig 5)**.

22. As per claim 25, Smith et al teach if said request requires said second TCP connection with one of said plurality of servers, selecting a first server from said plurality of servers, and initiating said second TCP connection with said first server **(see at least figs 5/17, col. 7, ll 35-53)**.

23. As per claim 26, Smith et al teach wherein said application requests said end-to-end TCP connection with said first server **(see at least column 2, lines 38-60, column 7, lines 35-53, fig 5)**.

24. As per claim 27, Smith et al teach receiving said data on said second TCP connection from said first server; storing said data in said receive buffer of said second TCP connection **(see at least column 2, lines 38-60, column 7, lines 35-53, fig 5)**.

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25. As per claim 30, Smith et al teach closing said first TCP connection with said client (**see col. 7, ll. 47-53**).

26. As per claim 31, Smith et al teach wherein said closing of said connection is done by said control unit upon a receiving a request for closing said connection from said data switching unit (**see col. 7, ll. 47-53**).

27. As per claims 32-39, 46-70, 77-101, 108-124, these claims contain similar limitations as claims 1-8, and 15-31 above, therefore are rejected under the same rationale.

28. Claims 11, 13, 42, 44, 73, 75, 104, and 106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al and in view of Wicki et al and in further view Riddle (U.S. Patent No. 5,920,732).

29. As per claims 11 and 13, Smith et al fail to teach that a buffer is pre-allocated. However, Riddle teaches a method for preallocating buffers (**abstract and column 5, lines 5-15**). It would have been obvious to one of the ordinary skill in the art at the time of the applicant's invention to combine the teachings of Smith et al, Wicki et al, and Riddle because Riddles' use of a preallocated buffers in Smith et al's method would designate specific portions of the buffers for specific content, such as client requests.

30. As per claims 42, 44, 73, 75, 104, and 106, these claims contain similar limitations as claims 11 and 13 above, therefore are rejected under the same rationale.

31. Claims 12, 14, 43, 45, 74, 76, 105, and 107 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al in view of Wicki et al and in further view of Radko (U.S. Patent No. 5,687,392).

32. As per claims 12 and 14, Smith et al fail to teach that a buffer is dynamically allocated. However, Radko et al teach that use of a dynamically allocated buffer (**abstract**). It would have been obvious to one of the ordinary skill in the art at the time of the applicant's invention to combine the teachings of Smith et al, Wicki et al, and Radko because Radko's use of a dynamically allocated buffer in Smith et al's method would allow for increased buffer space by not designating specific portions of the buffers for specific content and dynamically allocating space as data space is needed.

33. As per claims 43, 45, 74, 76, 105, and 107, these claims contain similar limitations as claims 12 and 14 above, therefore are rejected under the same rationale.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Refai whose telephone number is (571) 272-3975. The examiner can normally be reached on M-F 9:00 am-5:00pm. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ramsey Refai

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December 2, 2010

/Ramsey Refai/

Primary Examiner, Art Unit 3627